

PRESS RELEASE

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PROVEtech:VL – MBtech's testing innovation for visual assistance systems

With PROVEtech:VL (Visual Loop) MBtech provides every camera-based driver assistance systems developer with a revolutionary software tool which combines the advantages of hardware-in-the loop (HiL) testing with the benefits of real test runs.

In modern vehicles driver assistance systems such as lane assistants or pedestrian recognition (Advanced Driver Assistance Systems – ADAS) now do far more than simply warning the driver of critical traffic situations; Where necessary they independently initiate braking procedures, for example. In order to be able to correctly perform these safety functions under all conditions the highly complex systems simultaneously utilize a number of sensors as data sources, creating a sensor (data) fusion. Thus actual, autonomous intervention only occurs when video images and radar echoes signal an immediate danger of collision independently of each other. Up until now, on the road towards series maturity ADAS were primarily tested via extensive test drives which were associated with the corresponding procedural disadvantages: These test drives can neither be repeated any desired number of times under identical conditions, nor can the environment be individually adapted to the corresponding test requirements. In addition, road safety regulations limit the number of possible test scenarios. Thanks to PROVEtech:VL – the newest product from MBtech's electronics solutions segment – these and other drawbacks are finally a thing of the past.

PROVEtech:VL expands MBtech's PROVEtech tool suite with the visual loop component. For the first time, this enables developers to test the software quality of active, camera-based safety features under real conditions in the laboratory, or more precisely, in HiL environments - an innovation which will enormously benefit the test engineers on the road towards series production. Every test is automated - the sequences can be reproduced as often as desired, the parameters are particularly easy to vary and the feedback regarding system reactions is delivered in real time. Furthermore PROVEtech:VL can be integrated directly into existing vehicle electronics testing environments and easily adapted to the various assistance functionalities. Open interfaces and expandable solutions for quantitative, comprehensive testing make the MBtech technology extremely future-safe.

In order to reproduce all of the influencing factors of real test runs in the laboratory without any trade-offs, the test system must be able to easily import an extensive range of route and environmental information from a variety of sources. The advantages of PROVEtech:VL become especially apparent in this context: In order to create the photorealistic virtual world the users first select the desired basic route profile from standardized map material such as the "Open Street Map", for example. Then they can place houses, trees, traffic signs and numerous other objects from either their own or the integrated object database as desired along the route. PROVEtech:VL achieves the required test depth for the reliable laboratory analysis of ADAS control units by means of an additional function: All of the objects and route profiles can be specified individually and realistically via parameters such as colors, staining level, weather and light conditions, time of day and season, lane width, traffic density and even the driving styles of other road users. Precisely this aspect enables MBtech to deliver the right answer to one major deficit of existing systems which are only capable of testing the basic functions of the algorithms. Instead of the laboratory being capable of only testing whether the electronic assistants register lanes, for example, PROVEtech:VL diagnoses whether these are recognized in any conditions and at any time. In addition, the extremely realistic representation of the environment enables the functional testing of the system at a previously unachieved level.

With PROVEtech:VL MBtech's experts have set a new standard for the virtual testing of camera-based driver assistance systems: The user-friendly testing tool validates the function of control units utilizing merged sensor data in a laboratory environment in addition to the traditional testing procedures. This not only serves to significantly reduce the required time and costs of the series development process; the active electronic assistants thus reach the road faster and contribute earlier to ensuring the safety of every road user.

About the MBtech Group

The MBtech Group is a globally active, internationally leading automotive engineering and consulting company in Europe, North America and Asia.

MBtech offers comprehensive, integrated expertise along the product creation process and the product life cycle. The brand MBtech covers all products and services in four segments: MBtech vehicle engineering, MBtech powertrain solutions, MBtech electronics solutions and MBtech consulting. MBtech electronics solutions provides complete solutions and special services in the

automotive electronics field. Thanks to its extensive technological and process know-how ranging from the components onward to networked vehicle systems, MBtech is capable of handling the development and series support of the electrical and electronics systems.

In 2008 the MBtech Group achieved a worldwide turnover of 360 million euros with approximately 2,700 employees.

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